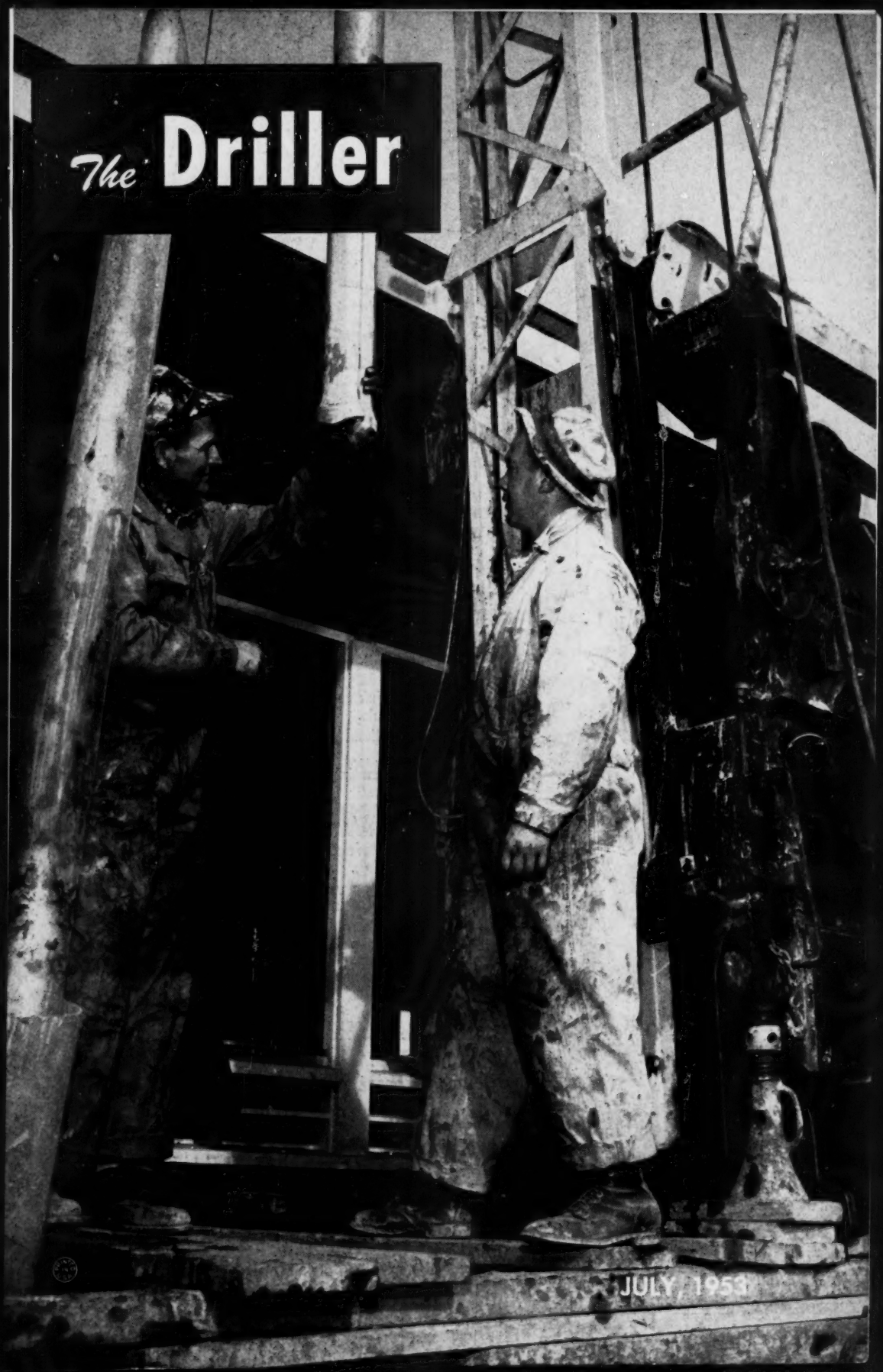
The Driller
JULY 1953

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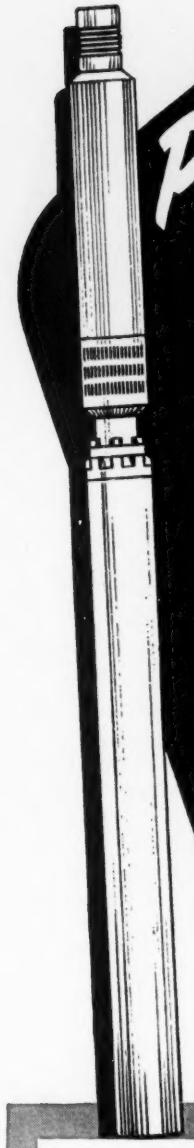

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The Driller

THE MONTHLY MAGAZINE
FOR WATER WELL DRILLERS
Founded 1927

Vol. 27 — No. 7

July, 1953

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On our cover . . . Herbert Rindt of Advance Well Drilling Co., Milwaukee, Wis. left, and one of his men, Benny Brown, inspect the bit on a 6-in. suburban home job. They were down 150 feet and expected to go to about 210 feet in clay, gravel, sand and quicksand.

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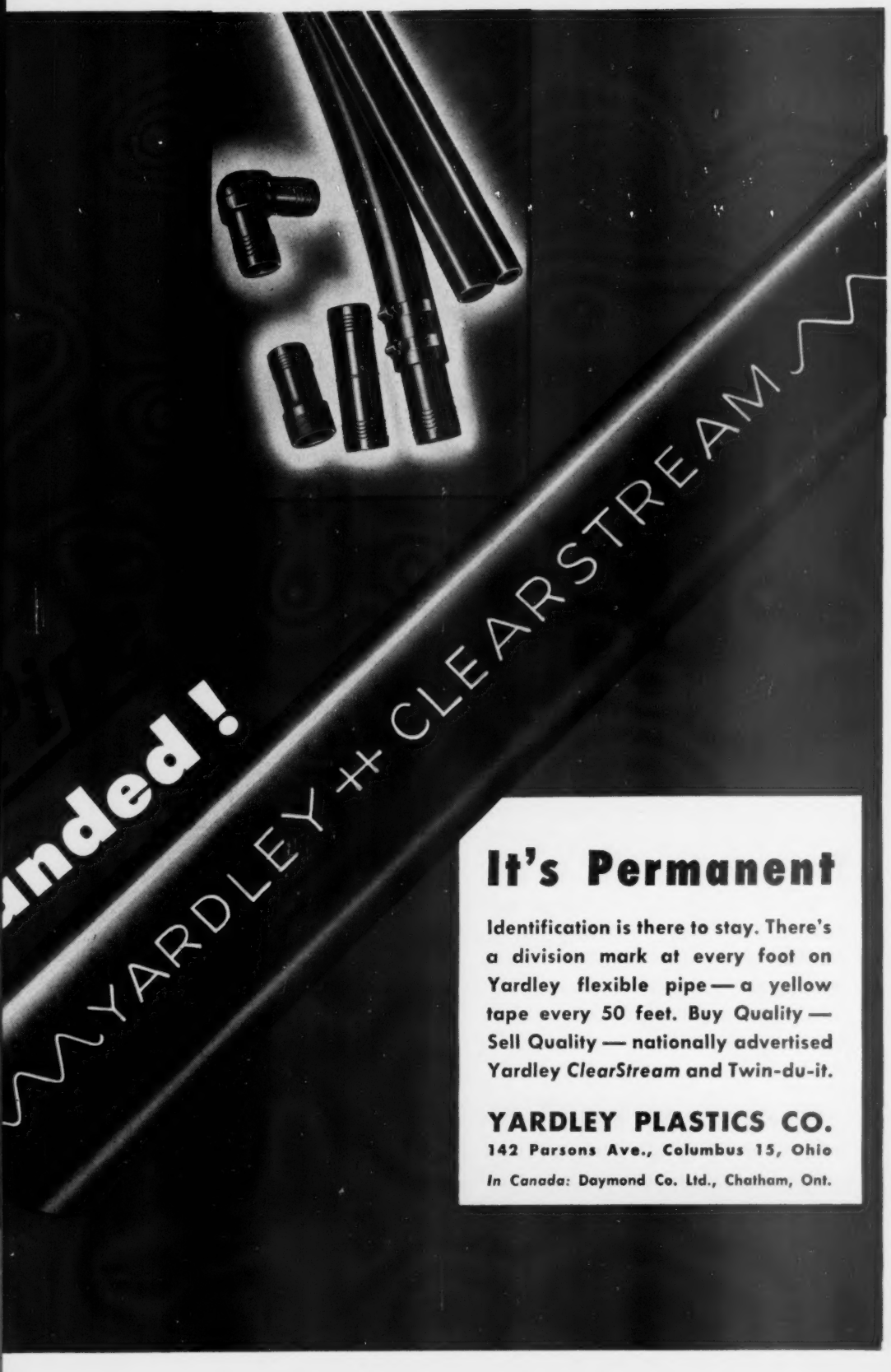

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June 15, 1953

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Vice President

RBC, Jr.
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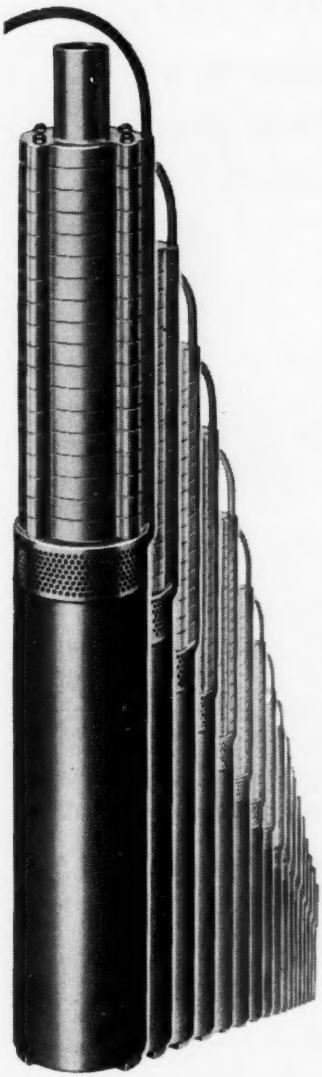

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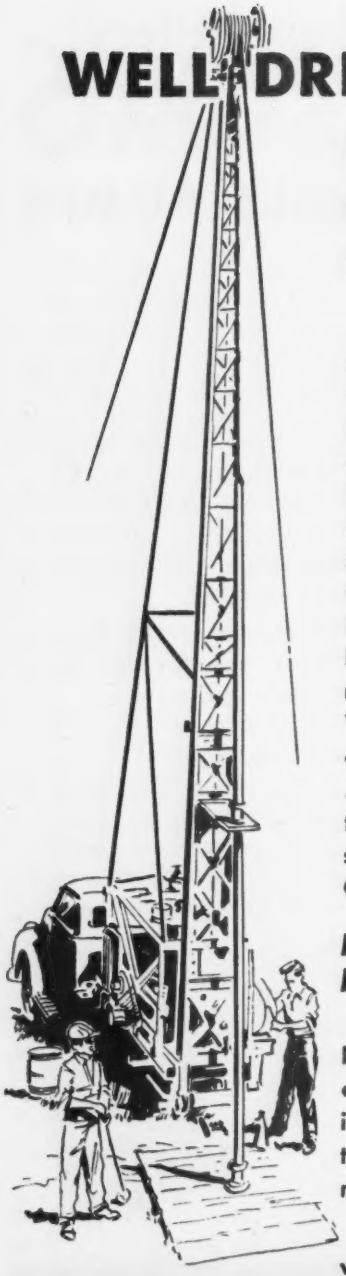
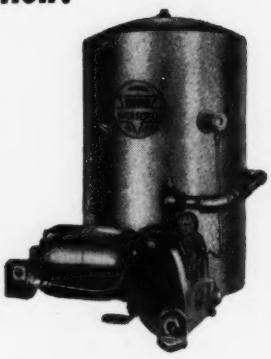


Duro Jet Water Systems are quickly installed and give trouble-free operation!



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Only PLASTEX is Measure Marked . . . a sure sign it's Genuine

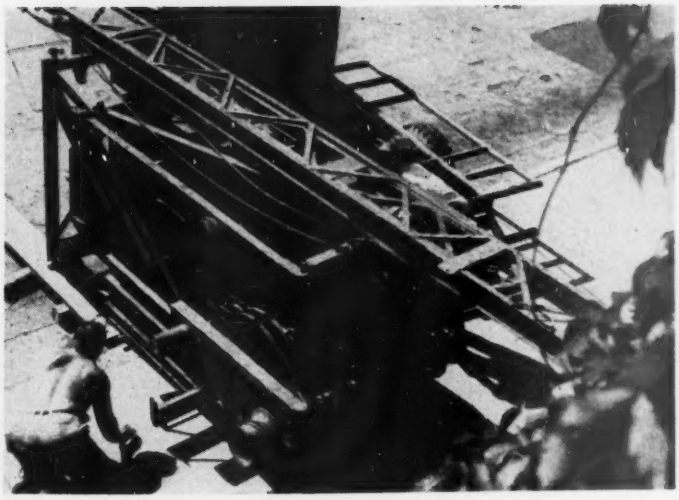
Forrest Pease is shown while removing the old, rusted screen from the 98-ft. well inside the Argus Camera Co. plant #1 at Ann Arbor, Mich.

Inside Job

Setting a new screen in a well located inside a building and supplying both gas and water to a Detroit restaurant are highlights in the drilling jobs of F. Pease and Sons, Washington, Mich.

A MOST unusual setting-up operation, for a clean-out and screen changing job, was accomplished by F. Pease and Sons, drillers in Washington, Mich. They skidded a 22-W into a building in order to replace a well screen.

The water from the 10-in. well, at the Argus Camera Co. plant #1 in Ann Arbor, Mich., is used in cooling units in the machine shop, cafeteria and several offices. The well had been in service about seven years and several feet of the bottom of the iron



The 22-W was removed from its truck mounting in order to skid it into the plant. Here skidding is prepared by blocking up the heavy rig.

(Pictures on this page courtesy Argus Eyes, Argus cameras, inc.)

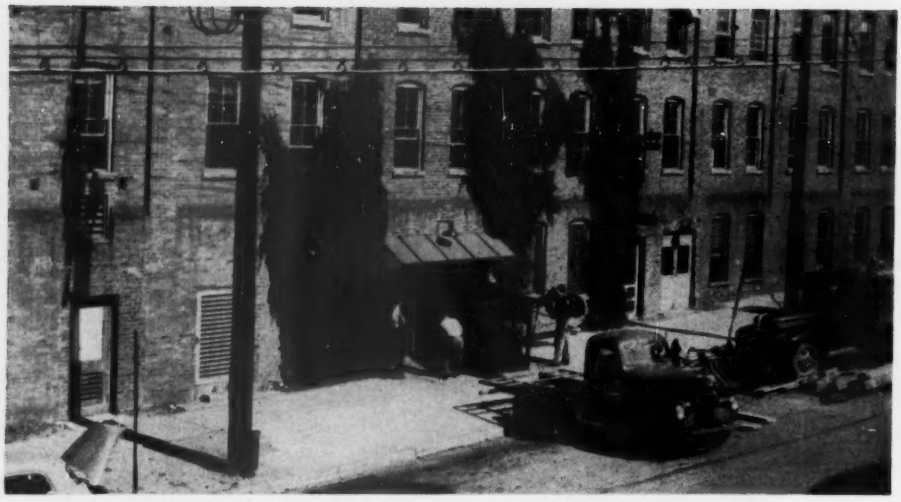
Workmen from the maintenance department of the Argus Camera Co. removed the center post from the double doorway to make room for entrance of the rig.

screen had almost completely rusted away. The old screen was replaced with a bronze Johnson screen, expected to last considerably longer than the original iron one.

Since the well was located inside a building at the bottom of an elevator shaft, the first problem was simply to get the rig into position.

Plant maintenance men cleared the way by removing the center post of the doorway leading to the shaft. Then the 22-W was removed from its mounting and skidded through a hallway to the shaft. The shaft was cribbed to hold the weight of the rig and the rig was moved across the shaft, into the extending hallway on

Front view shows the narrow working spaces allowed around the rig during skidding operations. The hallway beyond the entrance was seven feet wide.



In she goes. The 22-W is shown, in this general view, as it is about to disappear into the building.

(Photo courtesy Argus Eyes)

the far side until the tip of the derrick cleared the shaft wall.

To allow clearance between the floor and the bottom of the derrick, the rig was raised about 2½ feet and by alternately raising the derrick and moving the rig backward, the 22-W was eased into working position. When the telescoped derrick was raised to its full height of 36 feet the rig was centered over the well and the repair job could begin.

Working areas during this set up operation were very limited. There was only about six inches clearance on either side of the rig when it was moved down the 7-ft. wide hallway and when in working position over the well, the gas tank and cathead touched the wall.

According to Mr. Pease the entire job took about a week. It took longer to get the machine moved into position, the derrick raised and tools and other materials in to the job than the actual repair job on the 98-ft. well.

The Argus Camera Co. again has a supply of water for its cooling system in spite of the unusual efforts required to make that possible and the Pease Drilling Co. has long since

This photo, with F. Pease at the controls, was taken by the light from the flare of the gas well which was harnessed to supply heat to a Detroit restaurant.

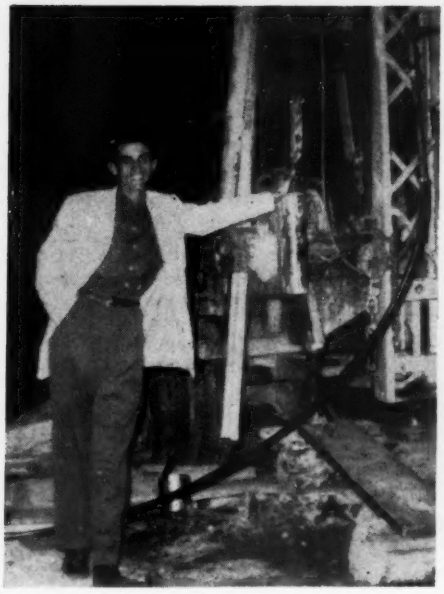
gone about its business and to more routine well jobs.

Another job that started out as a routine assignment developed into an additional well and a good supply of gas for the heating needs of a restaurant as well as sufficient water for the needs of the same restaurant. This job was accomplished with the new 20-W previously purchased by the firm.

They set out to drill a 4-in. water well for Maria's Pizzeria Restaurant, in Detroit, and at 97 feet struck gas. The restaurant owner, Frank Mencottie, decided to take advantage of this occurrence of gas on his property

Forrest Pease, Jr., is shown watching a testing operation. His father said his 12-yr. old son can operate both the 22-W the firm had been renting as well as their new 20-W.

The restaurant owner, Frank Mencottie, was not at all displeased as can be seen here, that sufficient gas was found to supply his business. A water well was drilled later to supply the restaurant.



and the well was harnessed to supply the needs of the restaurant with an estimated 25,000 to 35,000 cubic foot flow.

Then, at the request of the customer, Pease moved the rig about 13 feet and again struck for water. This time they started at six inches diameter and when the gas area was reached, cased off, reduced and continued to 175 feet where a test showed a steady flow of good water at 35 gpm. Well screens were again used. One at 124 feet and the other at the 175-ft. bottom depth.

These incidents might indicate a daily occurrence of unusual jobs for the Pease Firm but like almost every other drilling firm they spend most of their time at routine assignments, supplying residents in the area with good clear water and carrying on a drilling business on a sound basis.

It was a

"Shocking" Operation

One close call in almost 20 years of drilling isn't a bad average. The years of experience taught S. R. Gill, Hamilton, Ontario, the proper safety precautions that probably saved his own life as well as that of his driller from electrocution by high lines.

A LENGTH of chain and two pair of rubber boots probably saved S. R. Gill and his driller, Frank Down, both of Hamilton, Ontario, Canada, from being electrocuted. It happened like this.

They were on a well job near Bronte, between Hamilton and Toronto. The rig was set up between a house and a string of high tension wires with only five feet between the two. With the intention of changing bits they had pulled the tool string up and because of a mound of dirt in the working area had to pull the string aside before it could be let down.

Gill was pulling the string aside and Down was operating the brake when in spite of all precautions it happened. Suddenly, a flash of fire appeared and a shower of sparks surrounded them. Instinctively, both released their hold on the metal parts and jumped back. Here quick and accurate thinking saved the day. Neither of them grabbed impulsively to remove the cause of the trouble. Instead, using a dry stick of wood, the brake was knocked loose and the tool string released itself.

On one of the first jobs of S. R. Gill's new 20-W, Dick Lewis, Frank Down and Gill, shown left to right, pose during operations on the first of three wells to be drilled for the National Hosiery Mills in Hamilton, Ont.

Dick Lewis, left, and Frank Down check the material stuck to the bit. Cuttings were dumped between the two buildings shown in the background.

Luckily for both Gill and Down there was a length of chain from the rig to ground and the current was dissipated along this path. Luckily also both drillers wore rubber boots. Precautions such as these are not always enough, however. High electrical power has caused some strange and deadly things to happen. Gill said that was the first time, and the last time, anything like that would happen to him. He didn't need to elaborate.

Drilled For Many Years

His 18 years in the drilling business have taught S. R. Gill many things so, for the most part, the work is routine. He worked with his father, now retired, for about 12 years and has done his own contracting for about seven years. Frank Down too, is an old hand at the business. He drilled for Gill's father for about 15 years and has earned a place among the semi-retired.

Gill's number one driller now is Richard (Dick) Lewis who has about seven years of experience behind him and is capable in every way. As helper they have Len Shivers.

At the time of the close scrape with

Gill feeds water into the first section of casing on the National Hosiery Mills job. The well was expected to reach about 300 feet for an expected flow of 10 or 15 gpm.

Lewis swings the loaded bailer aside for emptying. The hole started at six inches but the Gill drillers will ream to eight inches if the flow doesn't come up to expectancy.

Setting up at the National Hosiery Mills job, Dick Lewis swings the bailer into place and S. R. Gill handles the controls.

the high-tension wires they were using a 21-W which Gill had operated for many years. In 1952 he bought a new Bucyrus-Erie 20-W which they are now operating. The new 20-W was delivered right after the birth of the Ontario Water Well Drillers Assoc. in May, 1952. Those who attended that meeting will recall having seen it erected in the yard of the Tillsonburg Pipe and Supply Co. Mounting the new rig on the truck had just been completed on the evening before the meeting.

Covers Interesting Area

Gill's drilling activities are centered around Hamilton, Canada's fifth largest city and the second largest in Ontario, and covers the area generally throughout Wentworth, Waterloo and Beverley counties. Hamilton is situated at the extreme westernmost tip of Lake Ontario. It is built, roughly, on two levels along the south shore of the tip of the lake. The principal business district, port facilities and industries are located on the shore level. Overlooking this busy hub, on a plateau-like shelf, is much of the residential section. A series of winding roads along steep

embankments connect the two sections.

The city is situated on the same steep fault scarp traversed by Niagara Falls, approximately 50 miles along Lake Ontario to the east. The over-all area presents considerable challenge and variety to a driller. In Wentworth County, for example, water is usually reached at 50 or 60 feet in limestone while in Beverley County, depths of 100 to 150 feet are reached before water is found. Here the water is also frequently found in gravel.

Some Jobs Troublesome

It was in this gravel that it took the Gill drillers six weeks to complete a 6-in. well to 264 feet for a flow of 10 gpm on a farm well near Galt. To begin with they had the impression the water table, on the particular spot, was at about 150 feet, and since this was the usual thing they proceeded to drill. They were hardly set up when it was discovered that a well across the road went to 260 feet before water was reached.

After working down through mixed gravel and boulders to 130 feet they struck a large boulder, and since no drive shoe was being used they had to pull the casing to put a drive shoe on. This was accomplished without incident but the going got tougher as the hole deepened. It took about 30 strokes to drive the casing a half inch. Eventually, however, the drillers won out at 264 feet from where the water is now being pumped with a Duro deep well pump.

The Gill firm concentrates its efforts on small water well contracts for farms and suburban homes. They have, however, done air conditioning

(Continued on page 42)

Airborne 24-L Owned by Mowlem Construction Co., Ltd.

A correction

An error of editorial nature was unintentionally printed in our March issue.

In preparing Part II of "Building Business African Style," an article that appeared serially in our February and March issues, we incorrectly stated, both in the article itself and in the cover caption which appeared on the "Contents" page, that the 24-L concerned was owned by Richardson Drilling Co., Ltd., whereas the rig actually belonged to Mowlem Construction Co., Ltd., by whom A. G. Richardson (who furnished us the material for the two articles) was then employed. Part I of the article had correctly stated that this particular job was performed before formation of the Richardson Drilling Co., and while Richardson was manager of the Water Boring Department of his previous company. This error was entirely our fault, and was not contributed to in any way by Mr. Richardson.

We are sorry for this unfortunate error, and sincerely hope that this correction will set the facts straight in the minds of our readers.

NEWS of the month

Five States Report on Conventions

Pennsylvania Reports New Officers

The Pennsylvania Water Well Contractors Assoc., Inc., has reported its new officers for the year 1953-54. They are: Edward D. Potter, North Wales, executive president; Frank Parente, Norristown, president; Leon Slauch, Oxford, first vice-president; Edward D. Potter, North Wales, second vice-president; Charles Lauman, Norristown, third vice-president; W. Rollin Raab, Churchville, secretary; and O. B. Gill, Lebanon, treasurer.

Directors and their districts are: N. A. Cook, Langhorne, district No. 1; Charles L. Myers, Coatesville, district No. 2; Paul E. Kohler, York, district No. 3; Louis E. Wieand, Milton, district No. 4; Carl Fetterman, Aristes, district No. 5; H. K. Troeller, Effort, district No. 6; George Coleman, Scranton, district No. 7; Raymond C. Kresge, Wilkes-Barre, district No. 8; and Charles W. Yarrison, Williamsport, district No. 9.

Washington State Meet Held in Seattle

Washington State Well Drillers Assoc., Inc., held their spring regional, at the Benjamin Franklin Hotel in Seattle on March 21.

There was a large turn out of drillers and two excellent speakers. Howard Harstad led the discussion on proper well construction and sanitation. Steve Kerpan, health officer for Kittitas County, talked about the pollution of ground water and the problem of drilling a well where there is an abundance of surface water to combat, such as found in irrigated areas.

W. B., Bill Henderson, Ellensburg, was chosen to fill the vacancy in the Board of Directors caused by the resignation of O. E. Erdman who is in charge of a drilling project in Peru. George Zent of Vancouver was appointed as secretary-treasurer until annual elections in November, to fill the vacancy left by Erdman.

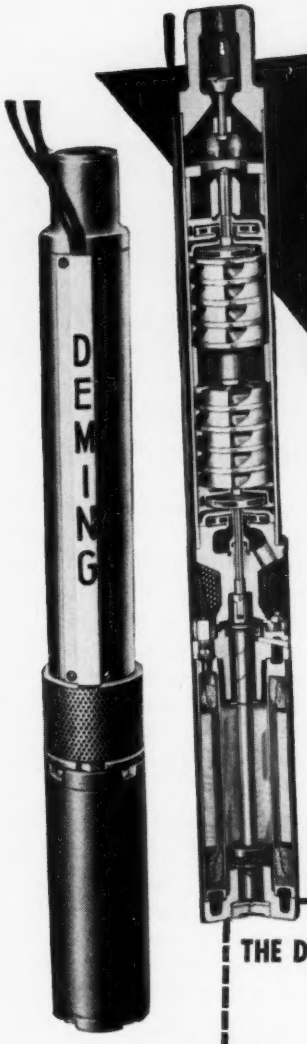
G. M. Patterson of the Patterson Drilling Co. of Olympia was chosen to serve a three-year term as director of the NWWA Board of Directors.

Seattle has been chosen as convention site for 1953. The following people have been named to the arrangements committee: Mr. and Mrs. G. A. Bezona, Mr. and Mrs. J. C. Maxwell, Mr. and Mrs. Bert Strom, Mr. and Mrs. Ernest Axelsen and Mr. and Mrs. Harold Meyer.

Missouri Holds its 17th Meeting

The seventeenth annual convention of the Missouri Water Well Drillers Assoc. was held April 13 and 14 at the Colonial Hotel in Springfield, Mo.

Technical sessions included a report on the 1952 meeting of the NWWA and plans for the 1953 exposition, by T. W. Thorpe, NWWA president; the construction of sand and gravel wells and the selection of



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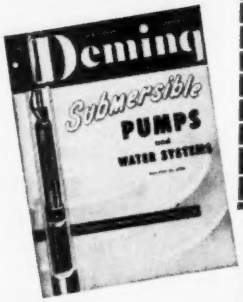

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- No rods, plungers or cylinders.
- No long shaft, spider bearings or heavy column pipe.
- No seal trouble. The PACIFIC needs no mechanical seal to keep oil in and water out.
- No priming — no pump house.
- No damage from frost, heat or dust.
- No corrosion. Motor is proofed against rust.
- Motor can be installed in crooked wells.

Easiest to install of any type deep well pump. The complete pump and motor unit is submerged in the well . . . all that comes to the surface is the discharge pipe, electric cable — and water.

PACIFIC **PACIFIC PUMPING CO.**

Manufacturers and Distributors of Pumps for Every Purpose

9201 San Leandro St., Oakland 3, Calif.

the proper screen by G. F. Briggs, Edward E. Johnson, Inc., and "The Written Contract," by Edwin F. Smith, Layne-Western Co.

Officers are Charles Wise, Kirkwood, president; Frank Weldon, Cape Girardeau, vice-president; D. T. Carroll, Swedeborg, secretary; W. B. Russell, Bolivar, treasurer; and Dale L. Fuller, Rolla, Service Secretary.

Directors are Ray Cobble, Cape Girardeau; Jay Wallace, Williamsburg; and C. E. Turk, Miller.

Oklahoma

The Oklahoma Water Well Drillers Assoc. held its fourth annual convention at the Extension Study Center, University of Oklahoma, Norman, on Oct. 30 and 31, 1952. The principal items of the business meeting were the adoption by the Association of the Revised Specifications for Public Water Supply Wells, and the election of new directors and officers.

The new directors elected were V. C. Mickle, I. V. Owen, and Earl Kelley. The latter two were former directors. The directors chose R. D. Sawyer as president and Marvin Baker to be vice-president for the coming year. George Reid, Professor of Sanitary Engineering at the University of Oklahoma, was chosen secretary-treasurer to succeed L. J. Clarke.

Montana

The Montana Water Well Drillers Assoc. held their annual convention at the Baxter Hotel, Bozeman, Mont., March 9 and 10.

There was a good turnout and the

(Continued on page 26)

A MINUTE A FOOT...

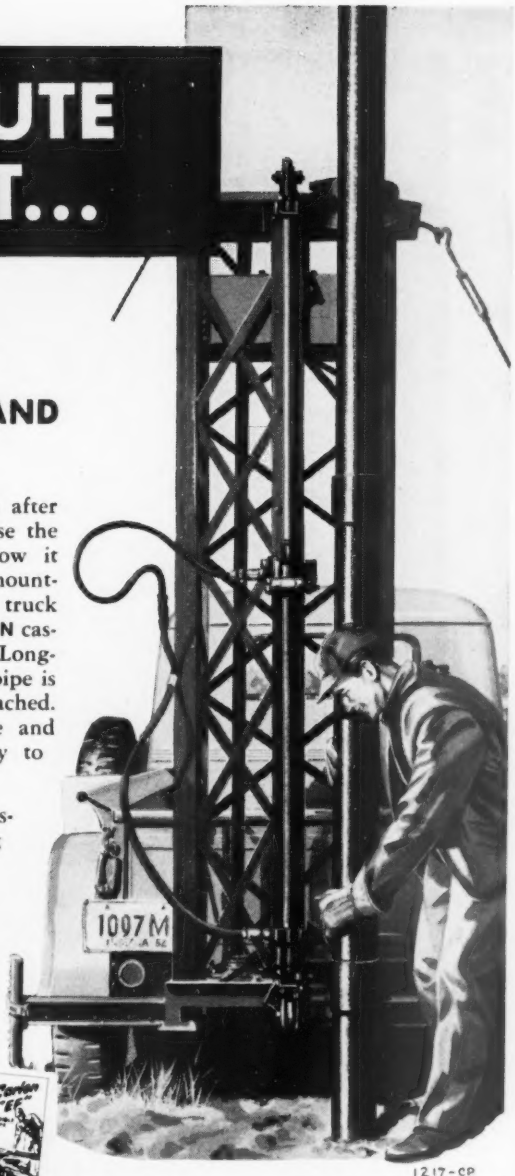
with

Carlon

PLASTIC CASING AND NEW MOBILE RIG

You can pump water minutes after you start drilling when you use the new **Mobile** method. Here's how it works: **Mobile** auger drilling rig mounted on Willys-Overland pickup truck drills well and then pulls **CARLON** casing and well screen into hole. Long-length **CARLON** flexible plastic pipe is lowered into well and pump attached. Truck serves as power source and carries all equipment necessary to drill and complete a well.

Lightweight **CARLON** pipe and casing permit easy manual handling and fast installation. They are guaranteed against rot, rust and electrolytic corrosion, are immune to the action of corrosive waters or soils, and won't accumulate scale. A **CARLON** well is not only fast . . . it's permanent!



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CARLON CP

Write today for literature.

CARLON PRODUCTS CORPORATION

Pioneers in Plastic Pipe

CANADA: Micro Plastics, Ltd., Acton, Ontario
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CARLON PRODUCTS CORP.
10149 Meech Ave., Cleveland 5, Ohio
Please send me literature on CARLON plastic pipe.

Name _____ Title _____

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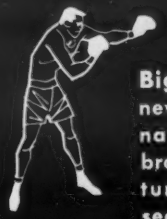
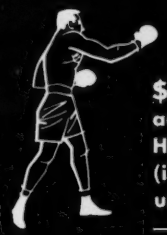
You've never seen anything like it!



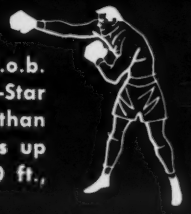
Big Selling Features — new "Quad-Volute" design, nationally-known motors, bronze impellers, brass venturis and nozzles, rotary seals, heavy-duty tanks!

Convertible — and we *mean* convertible. Same ejector works on shallow wells or on deep (4" or larger) wells — nothing extra to buy. You can get single-pipe models, too.

Designed for Volume Sales!
Two complete "Champion" groups (⅓ and ½ H.P.) that give you the *right* model for 82% of *the total jet pump market!*



$99.50 Retail—lowest nationally-advertised price! That's for the ⅓ H.P. 3-Star "Champion" *with tank* (illustrated), f.o.b. factory. Deliveries up to 610 G.P.H.—or depths to 70 ft. —or pressures up to 70 lbs.



$134.50 Retail—that's the f.o.b. factory price for the ½ H.P. 5-Star "Champion" with tank; *less* than most ⅓ H.P. systems! Deliveries up to 740 G.P.H., or depths to 80 ft., or pressures up to 80 lbs.!

Pump & Ejector only — both ⅓ and ½ H.P.—even *lower* in price! "Champion" models come with larger tanks, too, and as *vertical* tank systems if desired!

Write now for more details ON THIS GREAT, NEW

Rapidayton CHAMPION

CONVERTIBLE JET PUMP

THE DAYTON PUMP & MFG. COMPANY
Dayton 1, Ohio

and only *Rapidayton* has it!

News . . .

(Continued from page 22)

program for the two days was furnished by Mr. Brinck of the Montana State Board of Health, Mr. Wolfe of Great Northern Tool and Supply at Billings, Mr. Swenson of U. S. Geological Survey at Billings, and Mr. Cayser of Livingston.

A tour of the Montana State College was arranged for the wives of the drillers and the banquet program included a male quartet, slides of Mr. Swenson's trip to study water resources in India, and a string ensemble.

Officers elected for the coming year are K. D. Thompson, Wibaux, president; Carl Hollensteiner, Dillon, vice-president; Bert Van Dyken, Bozeman, secretary. New directors are: Clell Bond, Terry; Walter Riddock, Helena; R. C. Simpson, Malta; and Roy D. Pierce, Bridger.

Introduce Line of Polyphosphate Feeders

In order to combat corrosion, red water and lime scale, three common problems in home and farm water supply, a new line of polyphosphate feeders is being introduced by the F. E. Myers & Bro. Co., according to the manufacturer.

The feeder introduces to the water a few parts per million of vitreous phosphate, which, according to company officials, is effective in retarding corrosion, preventing the formation of lime scale and eliminating the precipitation of iron in the water which causes a red appearance.

Although not a water softener, Myers describes the product as an improved vitreous food-grade phosphate material which lends itself to practical application in the home with hard or soft, cold or warm

DRILLERS everywhere have found Bucyrus-Erie bits as dependable as over 80 years of manufacturing experience and craftsmanship can make them. No matter how rough the going, Bucyrus-Erie bits hold their correct shape longer because they're built for long service. Made from special long-wearing steels, the bits are forged, machined, and heat treated according to the latest scientific methods. It's no wonder you get more bites and longer service out of every Bucyrus-Erie bit. Specify Bucyrus-Erie when next ordering bits — and you'll be convinced.

1A53C

water, depending on the type of material used.

The polyphosphate feeder can be attached to a home or farm water system, or on a city water line. It is often used in conjunction with a water softener.

Publish Booklet

Four major problems confronting prospective purchasers of water systems are answered in the booklet, "Your New Water System," just published by the company.

Designed to give helpful hints to all water system buyers, the illustrated booklet is of particular interest to city dwellers who are contemplating building in the country and who will be owning their own water system for the first time.

Among the problems covered in the booklet are how the system should be selected, how it should be made, the proper methods of installing a system and the care it will need.

Completion of the conversion of its Ohio Street plant, formerly used for storage, into a new Products Development Division was also announced by the company.

The new Products Development Division will house complete facilities for the design and testing of new and improved products.

Feature New Pump Impeller Design

Use of an entirely new impeller design is a feature of the new Hypro General Purpose Pump, according to Hypro Engineering, Inc., Minneapolis, Minn.

The new impeller, moulded in rubber, has 12 vanes. Sharp lateral wiping edges on each vane minimize friction by reducing impeller drag.

The pump is available in three

Never Needs Priming!

FAIRBANKS-MORSE

Shallow Well Pump

Farmers and home owners in rural and suburban towns are buying this compact, performance-proved water system by the hundreds. It's popular, too, with pump dealers and drillers. Here are the reasons why:

- ☆ **Self-priming**
- ☆ **No moving parts below ground**
- ☆ **Permits drive point installation**
- ☆ **Has no leathers or belts to replace**
- ☆ **No piping to pull in making repairs**
- ☆ **Comes ready to plug in and use**
- ☆ **Delivers from 250 to 650 g.p.h. at setting up to 25 ft.**

For complete information write Fairbanks, Morse & Co., Chicago 5, Illinois

FAIRBANKS-MORSE

a name worth remembering when you want the best

WATER SYSTEMS • GENERATING SETS • MOWERS HAMMER MILLS • MAGNETOS • PUMPS • MOTORS SCALES • DIESEL LOCOMOTIVES AND ENGINES

models—½, ¾ and 1-in. port sizes. Pump case is rust-proof bronze. Other features include a stainless steel shaft, replaceable unit-type seals and straight-through ports. Materials and design of the equipment permit pumping of kerosene and fuel oil. It will handle dirty water without clogging and may be operated with electric or gasoline motors, or a tractor take-off.

For literature and further information, write Hypro Engineering, Inc., 404 No. Washington Ave., Minneapolis 1, Minn.

NOW! We've Added COMPACTNESS to many other Great Features

APCO Type V-M WATER SYSTEM

- 325 to 900 GPH
- Completely Automatic
- Mechanical Seal Eliminates Leakage
- Write for BULLETIN 112-V

Unit with 6 gallon tank is small enough to install under sink or lavatory. Equipped with famous Apco Turbine-Type Pump. Storage tank units for larger water storage available. Efficient, Durable, Economical.

DISTRIBUTORS IN PRINCIPAL CITIES

AURORA Always PUMPS — AURORA PUMP COMPANY

SUBSIDIARY OF THE NEW YORK AIR BRAKE CO.

58 Loucks Street, AURORA, ILLINOIS

Pump Reference Booklet Recently Published

A handy eight page reference book which includes a comprehensive comparison chart showing the specifications, capacities and prices of nine leading jet water systems in the low-price range was recently published by the Dayton Pump and Mfg. Co.

The booklet also contains the story of how the Rapidayton 3-Star Champion convertible jet water system was built. The title of the booklet is "You Can Be a Champion." Write to Dayton Pump & Mfg. Co., 500 North Webster St., Dayton 1, Ohio.

Plastic Pipe Now Permanently Marked At 10-ft. Intervals

A new, convenient identified flexible plastic pipe is now being marketed by The Plastex Pipe and Extrusion Co., the manufacturer reports.

Trade name for the new pipe is Plastex Measure Marked Pipe, so-called because the Plastex name is permanently impressed into the pipe in a contrasting color at exact 10 foot intervals throughout the coil. This new development enables the dealer to easily count out any given amount without measuring devices and also gives a quick inventory of partly used coils. In the field, installation measurements can be quickly

and accurately calculated with an ordinary pocket rule.

The new pipe is made in one grade of pure polyethelene and is guaranteed non-toxic. It replaces all other types of Plastex pipe previously made except Plastex Yellow pipe for mines which will also carry the Measure Marked feature.

Build New Outlet for Wholesale Pump Sales

Work on a new building on North Jackson Drive, Oshkosh, Wis., was started on April 8, and should be completed sometime in August, according to A. I. McDermott Co., wholesale distributors of water systems, heaters, softeners and pumps.

The one story building will provide warehouse, office and display space and has a 100-ft. display room which faces U S Highway 41-45.

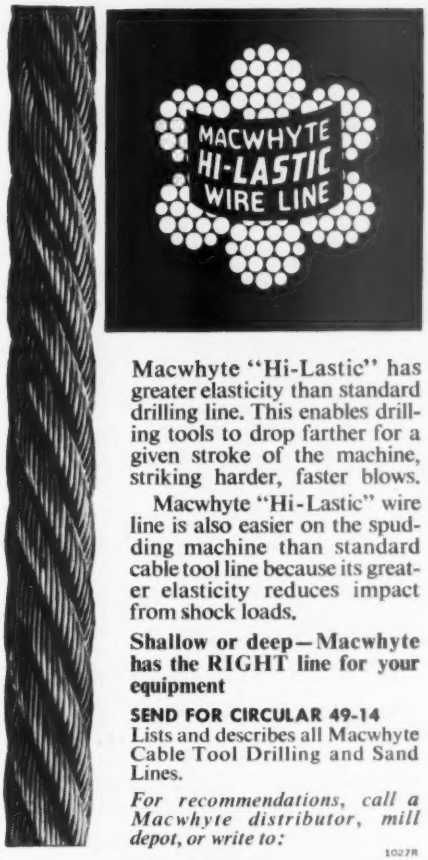
Introduce New Pump Parts Display

A new point of purchase display for pump parts is being introduced this month by The F. E. Myers & Bro. Co., manufacturers of water systems, pumps, sprayers and water conditioning equipment.

The top rack of the display, which holds many different parts, enables the customer in many cases to point out a part he needs without leafing through pages of catalogues. A handy parts guide is attached to the side of the display for the use of the customer if he can't find what he wants on the rack. A deep bin, in front, keeps parts within easy reach of the dealer.

The unique yellow and green display, constructed of sturdy cardboard, is shipped ready for assembly.

SMOOTHER, FASTER DRILLING!



Macwhyte "Hi-Lastic" has greater elasticity than standard drilling line. This enables drilling tools to drop farther for a given stroke of the machine, striking harder, faster blows.

Macwhyte "Hi-Lastic" wire line is also easier on the spudding machine than standard cable tool line because its greater elasticity reduces impact from shock loads.

Shallow or deep—Macwhyte has the RIGHT line for your equipment

SEND FOR CIRCULAR 49-14
Lists and describes all Macwhyte Cable Tool Drilling and Sand Lines.

For recommendations, call a Macwhyte distributor, mill depot, or write to:

1027R

MACWHYTE COMPANY

2939 Fourteenth Avenue
Kenosha, Wisconsin

Mill depots:
New York 4, 35 Water St. • Pittsburgh 19, 704 Second Ave. • Chicago 6, 228 So. Desplaines St. St. Paul 14, 2340 Hampden Ave. • Ft. Worth 1, P.O. Box 605 • Portland 9, 1603 N.W. 14th Ave. Seattle 4, 87 Holgate St. • San Francisco 7, 141 King St. • Los Angeles 21, 2035 Sacramento St.

from the *MAILBAG*

This page is open to any of our readers having questions to ask relating to drilling, driving pipe, dressing bits, etc. All letters will be answered promptly by experienced drillers and engineers, who are qualified to give intelligent advice on these subjects. We will publish as many letters of general interest as space will permit. Address: The Driller, South Milwaukee, Wis.

Another Solution for Problem in Mexico

In our from the Mailbag section of the May issue we ran one of several answers to a question submitted by a driller in Mexico. It would be inadvisable to reprint the original letter again, due to its length. We suggest therefore, that you refer to the May issue, if you don't recall the problem, before reading the second answer below. This answer was prepared by a member of the Bucyrus-Erie export sales staff who has done considerable work in drilling in foreign lands.

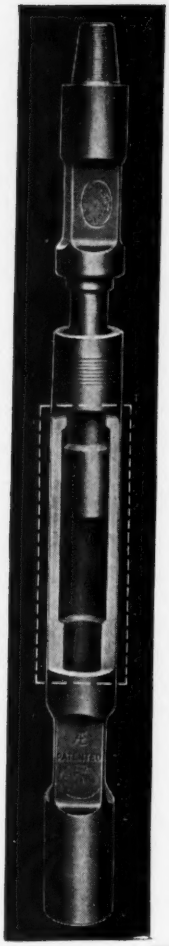
Gentlemen:

Working on the assumption that the neck of the rope socket is free and not buried in the caved material, and that there is and always has been water in the well to a depth covering the totaling string of tools we wish to make the following suggestions.

The well should be first cased with 10-in. screw casing to within about 10 feet of the head of the rope socket, after which we would suggest that the use of a string of fishing tools comprised of, a regular pattern slip socket (this particular type of socket is suggested, as, should it become necessary with careful manipulation it would be possible to release it from the rope socket neck) a set of fishing jars, a short stem—say 8 to 10-ft. long—and a rope socket, connected in that order from the bottom to the top. We do not know the dimensions of the lost string of drill tools but, we are presuming that the joint size is $2\frac{3}{4}$ x $3\frac{3}{4}$ in.—7 API, in which case the rope socket neck diameter is $3\frac{1}{2}$ inches. Accordingly we would use a 8-in. regular pattern slip socket with slips to fit the $3\frac{1}{2}$-in. diameter neck, we would however enlarge the diameter of the mouth of the socket to approximately $9\frac{1}{2}$-in. OD by the use of a socket bowl, or preferably, a "bell," fabricated from $\frac{1}{2}$-in. thick steel plate and electrically welded on in the manner shown on the accompanying sketch.

The object in enlarging the diameter of the socket would be, of course, to as nearly as possible fill the diameter of the hole, thus insuring that the socket would of neces-

Greatest Name in Cable Tools



ACME

TRUSTWORTHY SINCE 1900

Acme's Drilmor Weldless Jar . . .

Wears twice as long . . .

Made weldless, of alloy steels and properly heat-treated for maximum strength and toughness, Acme Drilmor Jars **DOUBLY** outwear welded type Jars.

Such superior points safeguard you against usual run of Jar troubles, often causing profit-eating fishing jobs and delays.

Exactingly engineered. Forged solid—no welds. Perfectly machined. Correct tensil strength and hardness assured by automatically controlled heat-treatment. No breakage. Cylindrical construction provides more stock; greater wearing surfaces; added strength. Swivel action assures free turning of tools; good hole. Line to swivel increases line-life.

Every Inch, The Drilling World's Finest Jars.

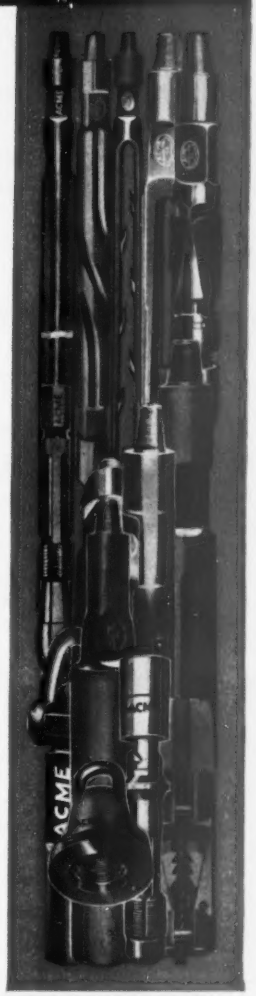


Fig. 105 Drilmor Weldless (Patented)

Write for free copy 36-page (1953 edition) Catalog and tool-use Manual — designed and packed with especially valuable information for Water Well Drillers.

To-be-sure —Always: Order Acme's.

You get more of EVERYTHING needed in Acme Tools—100 are shown in new Catalog.

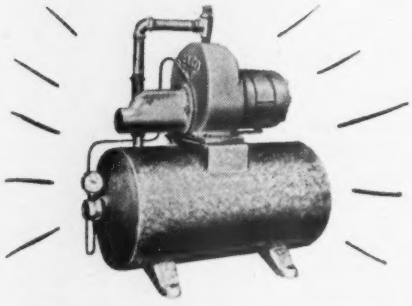
Acme Fishing Tool Co.

PARKERSBURG, W. VA.

Export Office: 19 Rector St., New York 6, N. Y.

General Motors
Engineering
Delco Production Skill
...your keys to Sales Success

Take a short cut
to extra profits
with a DELCO
Water System franchise



Built to sell and to stay sold!

Self-selling extra features and national advertising make your job easy when you carry the Delco Water System line. General Motors engineered and Delco built, these pumps assure customer satisfaction and eliminate costly service calls. This tank-mounted convertible jet is available with a ⅓ or ½ hp Delco Appliance Rigid-frame Motor, and delivers 490 to 990 gallons per hour at 20 lbs. pressure from depths of 5 to 20 feet. A complete line at low, low prices.

Select new franchises available now

For the most valuable franchise in the industry, write Delco Appliance Division, Dept. TD, General Motors Corp., Rochester 1, N. Y.

GENERAL MOTORS DELCO WATER SYSTEMS

For a good deal
DEAL WITH DELCO

Manufacturers of famous Delco-Heat oil- and gas-fired burners, Conditionairs and boilers.

sity have to pass over the head of the rope socket and not to its side. It will then be found possible, unless the caved-in material around the drill tools is set very firmly, to use the jars and stem to tap the fishing socket down over the rope socket sufficiently far so that the slips will engage its neck when the fishing string is raised a few inches. While the fishing socket is being tapped down over the head of the rope socket it will, of necessity, force the drill string slightly over to the center of the hole and at the same time loosen the caved material to a certain extent.

The second phase of the operation would then be started by very carefully tightening the drill cable so as to open the reins of the fishing jars to their fullest extent and make quite sure that the slips have securely engaged the neck of the drill string rope socket. The drill cable would then be eased off a couple of inches. A piece of board say three feet long and two inches wide by an inch thick is placed horizontally across the top of the 10-in. casing, just touching the drill cable. The drill cable slack would then be taken up again until, by feel, the exact point where the fishing jars reach their fullest extent was reached. A fine chalk line mark would then be made on the drill cable at the point immediately adjacent to the top edge of the aforementioned piece of board.

With the machine crank pin set in the shortest stroke, and in the case of most Bucyrus-Erie machines, with the top pitman arm pin set in the hole nearest the end of the spudding beam, or the up driving position, the drill line would be again eased off by about four feet. The spudding beam would then be set in motion and the drill line tightened by a couple of inches each time the spudding beam

reached a position just past its lowest position until the fishing jars were jarring open when the beam was at the half-way point of its down stroke. This motion would then be continued at the steady speed of say 30 strokes per minute. Each time the blow of the closing jars would occur slightly before the half-way point on the beam's down stroke, the drill line being tightened so as to keep the jarring point always at this half-way point. The machine would be operated continuously in this manner, a constant watch being kept on the mark previously made on the drill line so as to ascertain whether the tools were moving up or not. Very considerable patience is required at this point as it may be entirely necessary to continue the jarring operation for a period extending even to days in duration. However, patience will be rewarded by the eventual recovery of the tools, unless the drill tools are wedged either by the cementing action of some formations, or by a large boulder which may have shifted into the hole.

Suggest Alternate Method

Should we be wrong in our assumption that the head of the drill string rope socket is exposed above the caved material, or that the drill tools have been submerged in water, we would then suggest the following procedure be adopted.

The hole should first be cased with 10-in. casing to a point about three or four feet above the top of the fill and then drilled out with a 10-in. bit. Great care should be taken to stop immediately when the head of the rope socket is reached, as any additional pounding will only serve to damage the rope socket and neck and force it further into the wall of the well. At this point, the casing

(Continued on page 36)

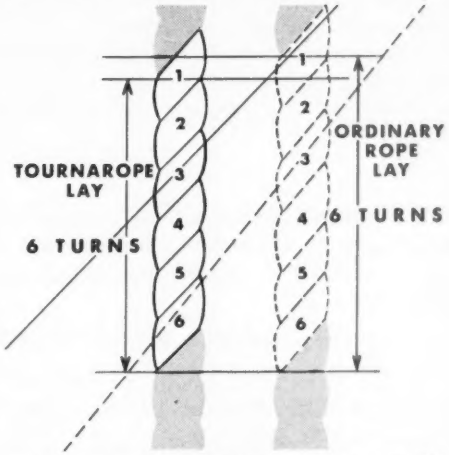
Built to take repeated bending

over sheaves

Pre-formed Tournarope has more *twists* per foot than ordinary wire rope. As a result, you get more *steel* per foot and greater strength.

Although built with a flatter twist that forms a harder structure, the 7% shorter lay gives Tournarope greater flexibility. Because of these features, Tournarope: 1) rolls easier over small sheaves; 2) withstands abrasion and bending fatigues; 3) resists kinking; 4) spools easily and smoothly; 5) handles easier than ordinary rope.

All these plus values add up to longer life for Tournarope. For lower annual rope costs, try Tournarope the next time you replace wire rope on any of your equipment. Write for price quotation on your cable requirements to:



Tournarope—Trademark Reg. U.S. Pat. Off. W-306-G-d

LeTourneau-Westinghouse Company Tournarope Div. Peoria, Illinois

BITS from the wit sharpener

The college student went to work for a driller for the summer. The first night he ate a big dinner and went to bed. The next morning he was awakened from a sound slumber by the driller, eager to get to work.

Shaking the lad he whispered: "It's 4:30."

"Four thirty!" gasped the college man. "You better get to bed. You've got a lot of work to do tomorrow."

Joe: "That's a pretty dress you have on."

Josey: "Yes, I only wear it to teas."

Joe: "Whom?"

She was fat and over 40, but still kittenish. The young man she had cornered at the party was thinking hard for some excuse to escape. At last he murmured, "Do you remember the youngster who used to tickle you under the chin at school?"

"Oh," she exclaimed gushingly, "so that's who you are!"

"No," he said blandly, "that was my father."

If you're a one-handed driver, watch out . . . you may walk down the church aisle or you may be carried down it."

Judge (to Prosecutor): Then you recognize this watch as the one which was stolen?"

Prosecutor: "Yes, your honor."

Judge: "And yet it isn't the only watch of its kind in the world! See this one I have is just like it!"

Prosecutor: "Very likely, your honor; there were two stolen."

Boy: "Dad, what is meant by a man attending a convention as a delegate-at-large?"

Father: "It means his wife didn't go with him."

The state congressman stood in front of the hotel in the cool of the evening. Up drove a farmer and parked. "Hey mister," he said, addressing the congressman, "how about watchin' my car while I do some shoppin' for the old lady?"

Drawing himself up to his fullest height, the congressman said, "My good man, I'll have you know I am a congressman of this state."

"Oh I see," said the farmer, "I'll get somebody else but thanks for warning me."

A woman from the wrong side of the tracks was trying to enroll her daughter in a very exclusive school. "Has she had a good musical education?" she was asked.

"She sure has," was the proud mother's reply. "Tell her the name of any song you like and she'll tell you what's on the other side of the record."

On his first solo run, the engineer brought the train to a screaming halt just short of a tunnel.

The brakeman noted his trembling hands, and queried, "What's the trouble, Mac? Is there something wrong with that tunnel?"

"I may be new at this," replied the engineer, "But any idiot can see that this big train could never get through that tiny hole at the other end of this tunnel!"

UNIVERSAL PUMPS and Water Systems can really.. take HARD USAGE

UNIVERSALS are rugged, trouble-free. They are built to stand up under the tough, exacting demands of 24-hour service. They give you more water at lower cost.

OPTIONAL STAGE, precision-machine for lifts from 50′ to 300′. Ideal for domestic use, farms, wherever water tables are deep.

CONVERT-I-JET—Automatic self-primer for lifts not exceeding 25′ at or near sea level.

UNIVERSAL offers a complete line of injector and centrifugal pumps and water systems, for homes, farms, industry.

Send for Catalog.

UNIVERSAL MFG. CO.

1440 San Pablo Ave. Berkeley 2, Calif.
2114 S. 41st St. Louisville 11, Ky.

"There's a Universal for you."

DEPT. D-7

102

Mailbag . . .

(Continued from page 33)

would be lowered to a point approximately 10 feet above the head of the rope socket. The 10-in. bit would be replaced by a 12-in. by 4½-in. spud and drilling continued until the end of the spud has passed the rope socket neck. Bailing is done frequently with a 2½-in. flat valve bailer until the fill around the lost tools has been cleared to a depth of at least 8 to 10-ft. After this cleaning has been completed we would then proceed with the fishing operation as described above.

It has been our experience that with a fairly long string of tools in a 10-in. hole, it is extremely unlikely that the head of the rope socket would be leaning to an angle which would place it entirely outside the periphery of the hole. Consequently the use of a bit or wall hook is not usually necessary in small diameter holes and we would not advise it in this particular case.

Asks About Jetting In Hard Packed Sand

Dear Sirs:

Recently I bought a two stage centrifugal pump for jetting three and four inch wells, and it won't work in this hard packed sand that we have here.

I bushed the holes down to 3/16 inch. I had 165 lbs. pressure with about 30 gpm and it just won't cut the sand loose. It works real good on loose sand and blue clay. The hard packed fine sand with a few small pebbles in it is my worse problem.

I have cable tools and sometimes I use pipe and a hydraulic bit but I wanted something that would drill faster. That is the reason I bought the jetting pump.

Could you please tell me any way of jetting hard packed sand. The deepest I drill here is about 80 feet.

Sometimes we hit salt water at about 80 feet and one driller says that you can very seldom get good water after going through salt water because each layer of water below gets saltier.

If so how do you get good water at 150 feet or more in areas where there is some salt water?

E. B. **Michigan**

As a rule, packed sand always presents a difficult drilling problem, regardless of what drilling method is used. In sand and gravel drilling with jetting tools, unless heavy gravel or boulders will be encountered, the cutting edge of the bit should be drawn down thin. The reason for using the thin cutting edge is that it will stir up the sand more readily. On the other hand, a bit dressed blunt, as in rock drilling, tends to pack the material.

As a usual thing, time can be made by keeping the drive pipe ahead of the hole, or at least by keeping it even with the lower end of the bit. When the pipe is driven ahead, care must be exercised to see that it is not driven onto a boulder, which would crimp the end of the pipe, or else throw the pipe out of line. Sometimes, when the sand is heavy and hard to lift, it is well to mix some clay in the suction pool, as the clay will thicken the water and hold the sand in suspension.

In some sections of the country, where large amounts of quicksand have to be penetrated, it is often necessary to use two water swivels and two discharge hoses in order to bring down the minimum time re-

HOW BUCYRUS-ERIE DRILLS GIVE YOU 3-WAY DRILLING SUPERIORITY

Water well drillers everywhere will tell you Bucyrus-Erie rigs are their first choice. Performance is the big reason. Here's why these drillers get extra footage, extra time, extra contracts:

Speedy, Smooth, Safe Setups with telescoping derrick, power derrick hoist, and the unique folding brace arrangement (on the 20-W and 22-W). No need to climb the derrick — the folding tubular braces automatically fall into position for bolting. Minutes after arrival you're ready to start drilling.

Smooth Hard-Hitting Drilling Motion is obtained by power drive direct from jackshaft to spudding gear — not through spudding shaft or key. This arrangement picks spudding beam "out from under" the drill line, permitting a fast free drop of drilling tools. The result: a live, smashing tool wallop that produces more footage per day!

Simple Convenient Operation keeps the driller on top of the job. All control levers are centrally located within arm's reach of the operator. Exclusive automatic feed pays out line to follow progress of bit. This continuous feeding means maximum penetration with each blow. 2W53C

There are many additional reasons why Bucyrus-Eries are leaders in the water well drilling field. Write for full details.

20-W
Drills up to 500 feet; swings up to 1,200 lbs. of tools.

22-W
Drills up to 1,000 feet; swings up to 1,800 lbs. of tools.

60-L
Drills up to 1,500 feet; swings up to 2,400 lbs. of tools.

First with the Finest in Water Well Drills

BUCYRUS ERIE

South Milwaukee, Wisconsin

NOW... NEW EASE NEW ECONOMY
in making water system installations

with low-cost, long-lasting

Cres LINE *flexible* PLASTIC PIPE

Drastically reduce both your installation time and cost — with proven-in-use Cresline Flexible Plastic Pipe. 10 times lighter than steel pipe, Cresline Plastic Pipe is amazingly easy to install — requires no special tools. Non-corrosive — unharmed by electrolytic soil conditions. Smooth inner wall construction eliminates scaling — permits greater flow capacity. Available in ½" to 6" diameter sizes. Delivered in easy-to-handle coils and straight lengths.

Crescent Plastics, Inc., Dept. D
955 Diamond Ave., Evansville, Indiana
Please send my FREE copy of your booklet describing the CresLINE Flexible Plastic Pipe installation at DeMotte-Evans Farms . . . plus other information and specification sheets.

NAME_____
COMPANY_____
ADDRESS_____

quired to change drill rods, so as to prevent the sand from covering up the tools. When two swivels are used, one is screwed onto the next rod to be used and then when the change is to be made, all that is necessary is to unscrew the swivel from the tools, screw on the new rod with its swivel already attached and proceed with the work.

Frequently, more progress can be made when drilling in a packed sand formation with cable tools, by driving the pipe ahead of the tools and then drilling out the plug, which is forced up on the inside of the pipe. Due to the fact that sand does not mix with water in the same sense as clay and water mix, quite a saving of time in drilling out a sand plug can be made if some clay is dumped into the hole before the tools are lowered. The clay serves the purpose by making a thick solution in the bottom of the hole and thus holds the sand in suspension.

Regarding the presence of salt water, which you said, you sometimes hit about 80 ft., ordinarily you cannot expect to find fresh water below salt water within the same formation. On the other hand, it is possible, by casing off the salt water, to find fresh water farther down. We suggest you write your state geologist, who is of course more familiar with your local conditions. In writing, be sure to give precise location of the well.

Drilling-Driving Varies According to Area

Gentlemen:

Please send us whatever practical information you may have concerning various phases of well drilling, particularly the proper method of driving casings.

L. J. B. **Pennsylvania**

We do not publish a manual or

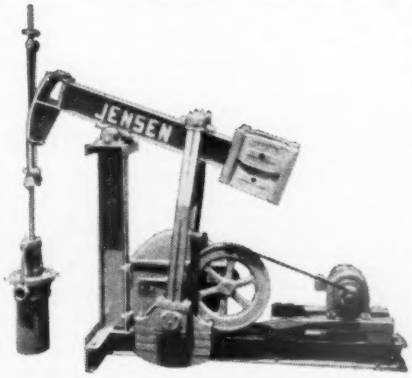
instruction on the technique of drilling water wells and driving casings and it is difficult to lay down a set of rules or regulations covering drilling methods for all cases because conditions are seldom the same in any area. Here are a few observations with regard to drilling and methods of driving casing that might be helpful, however.

In drilling loose formations, such as clay, hard pan or sand and gravel mixed with clay, the driller either drills and drives, or drives and drills the plug. In the first method the idea is to drill ahead of the casing and then drive. This is done by drilling below the casing as far as advisable, then bailing the material that has been loosened up. Drive blocks are clamped on the upper end of the drill stem and a drive head or protecting coupling placed on the upper end of the casing; the driving being done by raising the string of tools and letting them fall so that the drive clamp strikes the drive head or coupling, thus pounding or driving the casing down.

The second method consists of first driving the casing into the soft material as far as possible, so that the material is forced up into the lower end of the casing, forming a plug on the inside. When this plug stops the driving it is drilled out and the material removed by bailing. Often times the casing can be driven from 50 to 100 ft. by this method, but there is the danger of passing up good water bearing strata.

If the formation is partly rock, then an open hole is drilled as far as possible and casing set in through the caving formations, then through open hole of next rock formations and so on until the desired depth is reached.

(Continued on page 42)



Pump Handle Pete Says:

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When the JENSEN folks started makin' pumping units more'n 33 years ago, they knew they'd have to make units good 'nough to keep the well drillers and customers happy — and they did it!

The drillers are happy with JENSEN PUMPING UNITS 'cause they're easy to install, easy to counter-balance, and they're not prone to need a lot of service.

Now you take the customers. They're happy with 'em 'cause JENSEN PUMPING UNITS cost less to buy, and less to install, and operating and keeping 'em up costs practically nothin'. On top of this, they operate with either an electric motor or small engine.

These are only some of the reasons why JENSENS keep sellin' themselves. Write to 1016 Fourteenth St., Coffeyville, Kansas, and get more facts and figures.

JENSEN

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Coffeyville, Kansas, U.S.A.

BARGAIN counter

All advertising in this section is payable in advance. Enclose your check or money order with copy. Rate: 60c per line. Minimum charge $2.40. No discounts; no commissions. Count your own copy to avoid delay. The average line contains 28 characters (20 characters if all capital letters are used). Count spaces and punctuation as one character each. Allow 10 characters for box number if blind advertisement is desired. Closing date — 10th of preceding month. Example — January issue closes December 10th. Be sure to address separate inquiries to each advertiser by using the correct box numbers. Mail Box inquiries care of THE DRILLER, South Milwaukee, Wis.

DRILLS FOR SALE

1951 Model 22-W mounted on 1948 White 2½ ton truck. Complete with tools. Hercules 6 cylinder engine. Rig and truck in first-class condition. R. R. Long & Company, Jacksonville, Ill. Phone 512.

Bucyrus-Erie 24L, Truck mounted complete with ¾ Drill line and ⅝ sand line, stem, rope socket, jars, bumper bar. Three years old, like new. Located N. Y. state. Can be delivered at once. Box 524

All steel custom built rig mounted on Chevrolet truck. Approx. size of 22-W. Power derrick hoist, Bucyrus shock absorber, V belt drive to jack shaft. Can be had with tools if desired. O'Connor & Son, Spring Green, Wis. Phone 156.

24-W Bucyrus with U-6 Int. power unit with casing reel, spooling device, clutch driven sand reel, and power derrick hoist. No lines or tools. Mounted on a 4x6 GMC Army truck. All tires and truck in A-1 condition. Machine running every day. Available in July. $3900. R. R. Long & Co., R. 6, Old State Road, Jacksonville, Ill. Phone 512.

DRILLS FOR SALE

Ideco 10. New 1947. On good truck, newly painted. In very good condition. Catheads, blower telescopic 36 ft. derrick with pipe braces. Tools and cable. Write Leon Van Loan, Route 28, Highmount, New York. Phone Pine Hill 3041.

1948 Model 22-W on Mack truck with Hercules 6-cyl. engine. Good working condition. Ready to run. R. R. Long & Co., Jacksonville, Ill. Phone 512.

33-W Bucyrus Armstrong drill. Good running condition. Truck mounted. Ready for work. John McKenna, Dublin, N. H. Phone 205.

240 Star 1948. Excellent condition with starting equipment and rubber shock absorber in derrick head. 500 ft. of ⅝ in. drill line and 500 ft. of ⅜ in. sand line, both like new. Machine less truck. Good price. Contact Hollenbaugh's Garage, R. #2, Columbia City, Indiana. Phone Laud, Ind. No. 38 or 46.

1946 22-W on Chevrolet truck with 4-cyl. Buda engine. A-1 shape. R. R. Long & Co., Jacksonville, Ill. Phone 512.

Bucyrus-Erie 22-W. Good condition. Truck mounted. Ready for work. Windham Well Co., Putnam, Conn. Phone 1-4029.

No. 10 Ideco 4-yrs. old. Mounted on 1941 1½-ton Chev. truck. 36-ft. telescoping derrick with pipe braces and power derrick hoist. Continental engine. Equipped with catheads. 450-ft. of ⅝-in. drill line and 500-ft. of ⅜-in. sand line. Very good condition. Price $2750. Jos. A. Schwall, Northbrook, Ill. Phone Northbrook 534.

Failing 1500-S heavy duty rotary, also 1000-A Failing, complete, tools, etc. Fred E. Butler, 619 West 28th, Pueblo, Colorado.

DRILLS FOR SALE

No. 33 Bucyrus-Armstrong mounted on Chev. truck. Complete with tools. Good running condition. R. R. Long & Co., Jacksonville, Ill. Phone 512.

36-L Bucyrus-Erie. First-class shape. With or without tools. With or without truck. Virdell Drilling Co., P.O. Box 395, Llano, Tex.

24-L Bucyrus-Erie trailer mounted, complete with tools from 16 in. through 5 in. Gasoline or butane operated. Lines, new steel dog house, Kohler light plant, large water pump, water tank, swabbing equipment and many other miscellaneous tools. Robert P. Hennig, Rt. 3, Bush Trailer Park, Princeton, Ind. Phone 1304.

Custom built 500 ft. wire line machine with shock absorber in derrick. Mounted on 1942 1½ ton Dodge truck. Motor and machine just completely rebuilt and painted. Located Indiana. A real buy at $1500. Charles J. Zuber & Son, 2315 Wayne Trace, Fort Wayne, Indiana.

21-W, 32 ft. telescoping derrick, truck mounted. Cables and tools. Running every day. Reasonable. Ed Kranz, 5214 West Villard, Milwaukee, Wis. Phone Hilltop 5-1579.

22-W complete. 6 in. and 8 in. tools. Also 6 in. and 8 in. pipe. Machine working daily. Acton Well & Pump Co., North Acton, Mass. Phone Acton 3-4586.

Bucyrus-Erie 21-W mounted on 1934 Ford truck. Without tools. R. R. Long & Co., Jacksonville, Ill. Phone 512.

Bucyrus-Erie 21-W, one piece derrick, reinforced power hoist. 400 ft. of ½" drill line. 400 ft. of ¾" sand line. Catheads. LeRoi engine just overhauled. A-1 condition. $1800.00. J. Henry Robbins, Gibbsboro, N. J. Phone Laurel Springs 4-1610.

DRILLS FOR SALE

Bucyrus-Erie 22-W mounted on 1942 GMC 6x6 army truck. Machine and truck in perfect condition. Both motors recently overhauled. Will sell with or without tools. C. DeWitt & Sons, Washingtonville, N. Y. Phone 6671.

1947 Model 50 Keystone with power derrick hoist and 6-cyl. Continental engine. R. R. Long & Co., Jacksonville, Ill. Phone 512.

24-L drill complete with tools, derrick house, light plant, 2000 ft. drilling line, sand line. Price $7,500. Contact Perrine Drilling Co., 420 St. Ann St., Owensboro, Ky. Phone: 3-4678.

1950 Model 22-W mounted on 1949 Ford 2-ton truck. Hercules 6-cyl. engine. A-1 shape. R. R. Long & Co., Jacksonville, Ill. Phone 512.

21-W Bucyrus-Erie unmounted for truck mounting. 500 ft. drill cable and sandline. Perfect condition, 4½ years old. Price $2,300.00. R. C. Hoover, Box 128—W. 33rd St., Zion, Ill. Phone Trinity 2-3471.

No. 70 Keystone. Mounted. Ready to run. R. R. Long & Co., Jacksonville, Ill. Phone 512.

Williams Bros. treadle drilling machine mounted on Diamond T truck. Charles Morrison, Eastons Corners, Ontario. Phone Toledo 26R12.

Spudder and tools. No. 50 Keystone mounted on 1941 GMC. Lincoln welder. 1947 1½-ton truck with flat water tank. ¾-ton 1950 Ford pickup with winch 9475 miles. All in A-1 condition. A. L. Finley, 526 Ave. D, Powell, Wyoming. Phone 332.

Bucyrus-Erie 22-W. Mounted on Chevrolet truck. Casing reel, spooling device; 600 ft. drilling cable, 600 ft. sand line; no tools; price $4,500; A-1 shape. Guy Breemer, Lakota, Iowa.

DRILLS FOR SALE

Toronto Spudder mounted on 1943 International truck. Charles Morrison, Eastons Corners, Ontario. Phone Toledo 26R12.

1947 No. 240-A Speed Star drill complete with tool guide, electric starter, power mast hoist, 500 ft. drill and sand line. Excellent condition. $2,300.00. Great Northern Tool & Supply Co., Billings, Mont.

No. 16 Ideco mounted on 6x6 GMC truck. Both in good shape. 500 ft. drill line. Complete set of 6-in. tools 2¼x3¼-7 API joints. Price $3500. Bob Gordy, Ringgold, Ga. Phone 2339.

1948 Model 22-W mounted on 1937 International truck. Complete with tools. Hercules 6-cyl. engine. Good working condition. Ready to run. R. R. Long & Co., Jacksonville, Ill. Phone 512.

Keystone 50 mounted on '39 International truck D-40, with complete string of tools. All in good condition. $4500.00. Write T. C. Hawk & Son, Cresco, Pa. or Phone 5623.

Armstrong Spudder, trailer mounted. W. A. Lounsbury and Sons, St. Catherines, Ontario. Phone Mu-21712 or Mu-24580.

Keystone 50, truck mounted. Machine in first-class working order with complete string of 6 inch tools. Ready to move on job and start drilling. Bostick Well Drilling Co., 710 Forest Hill Road, Macon, Ga.

No. 70 Keystone Spudder mounted on truck. W. A. Lounsbury and Sons, St. Catherines, Ontario. Phone Mu-21712 or Mu-24580.

Two Keystones No. 50 truck mounted.

One extra good Bucyrus-Erie 33-W. Will trade these machines for new well casing or desirable property. C. L. Jennings, New London, Iowa.

DRILLS FOR SALE

Super D Fort Worth Spudder. 3500 ft. capacity, steel frame, telescoping derrick with Bucyrus shock absorber, casing reel cat head, Waukesha power unit mounted on rig. Machine is semi-trailer mounted with 1946 dia. T tractor. Tools to 18 in. O'Connor & Son, Spring Green, Wis. Phone 156.

No. 71 Speed Star (1947). Mounted on 1947 2-ton Reo 4-speed truck. Catheads, blower, stem guide, and 40-ft. telescopic derrick. Drill and truck engines recently overhauled. This equipment is in very good condition. Located in Michigan. Price $3200. Box 521

22-W Bucyrus-Erie in excellent condition. Mounted on 1945 International truck. 500 ft. drilling and sandlines. Casing reel and spooling device. Price $3,950.00. R. C. Hoover, Box 128, W. 33rd St., Zion, Ill. Phone Trinity 2-3471.

MISC. FOR SALE

Just out, brand new 76 page Bargain List. Used cable tools, fishing tools, wire lines. Send us list of what you need. Let us save you money. Tri State Supply, Box 827, Parkersburg, W. Va.

1941 Model Mack truck. 6-ton, model NJU1, 4x4, front drive disconnected, fair tires. Ready to go. $900. Heater Well Co., Raleigh, N. C.

Pipe and well casing: 5⅝-in., 6-in. and 6¼-in. New and used. Tom Scheuren, 933 Fern Ave., Reading, Pa. Phone 4-1287.

Hypochlorinator — Wallace & Tierman. Unused. Sell ½ cost. Complete accessories. P.O. Box 105, Kearny, N. J.

#D91 LeRoi Motor for 21-W Bucyrus-Erie Drill; overhauled; $100. 80 ft. of 16" ODx⅜" wall black seamless steel casing; $6 ft. Douglas Holzem, 1975 Prairie, Beloit, Wis. College 739.

MISC. FOR SALE

American Well Works deep well turbine pump. 160 gal. per min. at 360 ft. head. 25 hp electric motor. 350 ft. column and shaft, oil lubricated. Pump is complete with all controls. O'Connor & Son, Spring Green, Wis. Phone 156.

Pipe or tool trailer. Electric brakes. 7:50 x 16 tires. Hoeg & Ames, Lincoln, Iowa. Phone 23-F-4.

Bucyrus-Erie No. 12 Bit Dresser. Good running condition. Inquire New England Pipe and Driller Supply, R. F. D. 1, Newtown, Conn.

Three used 4¾ in. by 22 ft. Bucyrus-Erie combination stems with integral socket. Joint size 2¼x3¼x7 API. Two are in A-1 condition, one with damaged box. Write Crushed Rock Products, Maxon Road, Schenectady, N. Y. Att: Guy Woodrow.

EQUIPMENT WANTED

Wanted: New or near new Bucyrus-Erie 20-W well rig and tools. Will pay cash. Pat Eatherly, Carthage, Tennessee. Phone 395.

Good used Bucyrus-Erie 28-L or 36-L, with or without tools. Suburban Well Drilling Co., Lake St. at Church Rd., Elmhurst, Ill.

HELP WANTED

Experienced driller, non-drinker, for new Bucyrus-Erie rig. 45-hr. week plus much overtime. L. L. May, Rte. 13, Box 432, Milwaukee 7, Wis. Phone: South Milwaukee 2-3230.

HELP WANTED

A few good drillers for Florida and southern Georgia. Good Work. Wages up to $2.00 per hour. Must be reliable and sober with plenty of experience. Write Mr. Earl Van Every, P. O. Box 2804, Orlando, Fla.

Drillers experienced in soil borings and diamond drilling for foundation exploration. Give complete details. Toledo Testing Laboratory, Toledo, O.

Well drillers for farm and suburban homes. Good wages. Must be able to work without supervision. C. L. Jennings, New London, Iowa.

Competent drillers. Steady work. Artesian Well & Equipment Co., Inc., Rochelle Park, N. J.

The Bargain Counter Can Help You In Buying and Selling Used Rigs

Mailbag . . .

(Continued from page 39)

Sealing the casing in water wells usually consists of driving the well casing into the hard rock for a few inches or several feet. The casing shoe is driven far enough into the rock to make a perfect seal, shutting out all surface water silt and sand that might enter the well.

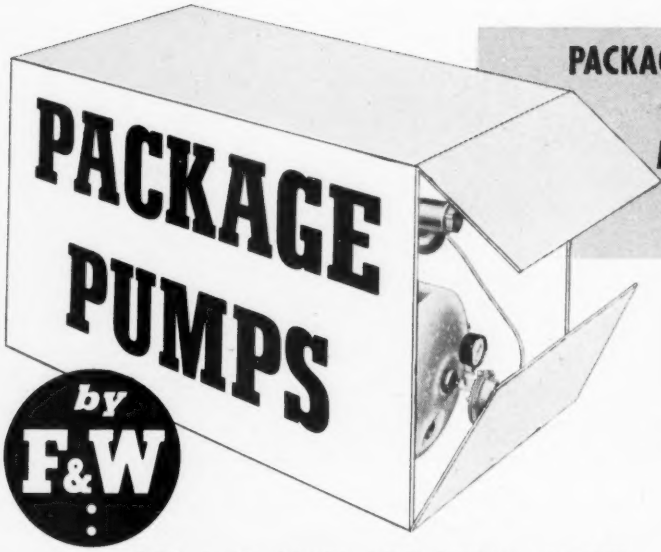
It is always considered risky practice to drive the pipe ahead of the tools, if there is a tendency of the pipe to drive hard. The reason for this is that a large boulder might be struck, which would cause the pipe to glance off, thus causing a slanting hole; or else the pipe might strike the boulder hard enough to crimp the end of the pipe.

We trust that these few remarks will be helpful to you.

"Shocking" Operation . .

(Continued from page 19)

and industrial wells and even blast hole jobs in a limestone quarry. These were fill-in jobs, although in 1951 the firm drilled 2,000 feet of blast holes. Primarily, small water well jobs are their bread and butter. There should be plenty of them too, for a firm as well established as the S. R. Gill Drilling Co. is, in the busy, growing area around Hamilton.



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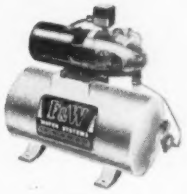
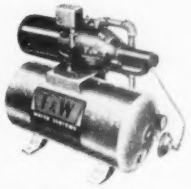
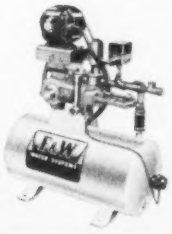


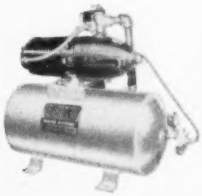
VARIJET
The VARIJET Shallow Well delivers 40-70% more water, yet reduces motor load and current consumption.



MULTI-PURPOSE
The F & W Multi-Purpose converts from shallow to deep well by moving jet off pump down into well.



SHALLOW-WELL PISTON
Where a shallow-well piston type pump is desired, this Model is an economical workhorse, available with ½ HP Motor.



BULLET JET SHALLOW-WELL
Here is the original horizontal jet pump pioneered by F & W and again produced because of popular demand.

FLINT & WALLING MANUFACTURING CO., INC.
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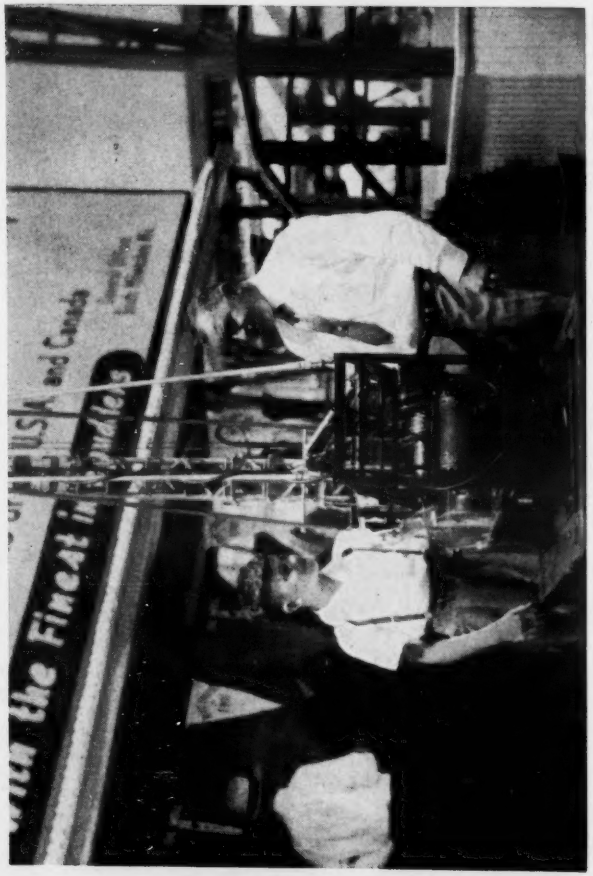

Among the visitors to the International Oil Exposition held in Tulsa, Okla., May 14-23, were C. S. Rymer, Grand Rapids, Mich. and his son Sammy. They are shown looking over the familiar 22-W model which was displayed next to the giant 48-L spudder.

The Driller

The monthly magazine for water well drillers

South Milwaukee, Wisconsin

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